

PLANAR ION FUNNEL FOR IMPROVED CONTROL OF ION TRANSMISSION AND TEMPERATURE IN CLUSTER STUDIES

CARLEY N FOLLUO, ABBEY McMAHON, JARRETT MASON, CAROLINE CHICK JARROLD, *Department of Chemistry, Indiana University, Bloomington, IN, USA.*

Cluster anions are commonly made in Smalley-type laser ablation sources, which generate a wide range of species in different charge states, potentially causing ion loss due to charge recombination in thermalization channels. We present an anion photoelectron spectroscopy study of anions selectively funneled into a thermalization channel using a planar ion funnel (PIF). This funnel can increase ion current and allow selection of different portions of the ion plume generated in the cluster source. The vibrational temperatures of funneled anions are evaluated by analysis of hot band transitions, and we present the advantages and disadvantages of implementing this mass spectrometric tool in studies that rely on ablation for ion production.